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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS MONTHLY
PROGRESS REPORT FOR PERIOD ENDING JUNE 30, 1994**

06/30/94

**DOE-FN
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REPORT**

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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Introduction

The Consent Agreement (CA) As Amended under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sections 120 and 106(a), the Federal Facility Compliance Agreement (FFCA), and the Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (FFA-CARE) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA) signed September 20, 1991, July 18, 1986, and November 19, 1991, respectively, require that monthly reports be submitted to the U.S. EPA regarding progress made to meet the provisions of those agreements. This report fulfills those requirements by describing actions undertaken at the Fernald Environmental Management Project (FEMP) during the period June 1 through June 30, 1994, and planned actions for the period July 1 through July 31, 1994.

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WORK ASSIGNMENTS AND PROGRESS

Descriptions of work progress are presented in the following sections and/or enclosures to this report:

- CA Section IX - Removal Actions
- CA Section X - Remedial Investigation/Feasibility Study
- Enclosure A - Waste Water Flows and Radionuclide Concentrations under CA Section XXIII.B
- Enclosure B - FFCA: Initial Remedial Measures and Other Open Actions
- Enclosure C - FFA: Control and Abatement of Radon-222 Emissions
- Enclosure D - Effluent Radiation Discharges to the Great Miami River

CA Section IX. Removal Actions

This section provides an update of activities associated with the implementation of Removal Actions (RAs) at the FEMP during June 1994. Information is presented for each of the Removal Actions identified in the Consent Agreement As Amended.

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REMOVAL ACTION SUMMARY

NO.	TITLE	SCOPE	STATUS
Phase I			
1	Contaminated Water Under FEMP Buildings	Pump water from extraction wells underneath Plants 2/3, 6, 8, and 9. Treat extracted water for volatile organic chemicals and uranium removal before discharge.	Treatment: Operational Pumping has not resumed
2	Waste Pit Area Run-off Control	Collect and treat contaminated storm water run-off from the waste pit area.	Construction Completed: 8/15/92 Operational: 7/30/92
3	South Groundwater Contamination Plume	Part 1 - Install new alternate water supply and transfer to industrial user.	Operational: 12/7/92
		Part 2 - Pump and discharge groundwater from South Plume.	Transfer: Ongoing Ongoing
		Part 3 - Install and operate Interim Advanced Waste Water Treatment system to reduce uranium contaminant loading to the Great Miami River.	Ongoing
		Part 4 - Conduct groundwater monitoring and institutional controls by sampling private and existing RI/FS wells in the South Plume area and installing homeowner treatment systems.	Ongoing
		Part 5 - Conduct groundwater modeling and geochemical investigating to define the extent of the groundwater plume contaminated with uranium	Completed: 2/25/94
4	Silos 1 & 2	OU 2 Dispute Resolution Supplemental Project - Provide for partial treatment of the South Plume discharge to further reduce uranium flow to the Great Miami River.	Operational: 3/31/94
		Install bentonite cap to reduce and monitor radon emissions. Provide follow-on monitoring.	Cap Completed: 11/28/91 Monitoring: Ongoing
5	Decant Sump Tank	Periodically remove liquid from K-65 decant sump tank.	Ongoing
6	Waste Pit 6 Residues	Eliminate potential airborne contamination by re-submerging exposed pit material.	Completed: 12/19/90

Shading denotes completed actions

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NO.	TITLE	SCOPE	STATUS
7	Plant 1 Pad Continuing Release	Stage I - Implement run-on/off control measures.	Completed: 1/17/92
		Stage II - Install new pad.	Completed: 12/4/92
		Stage III - Upgrade existing Plant 1 Storage Pad.	Ongoing
Phase II			
8	Inactive Flyash Pile Control	Install plastic chain-link barrier and post warning signs.	Completed: 12/23/91
9	Removal of Waste Inventories	Disposition of low-level waste off-site.	Ongoing
10	Active Flyash Pile Controls	Phase I - Complete interim surface stabilization.	Completed: 6/29/92
		Phase II - Complete active flyash pile controls.	Maintenance: Ongoing
11	Pit 5 - Experimental Treatment Facility	Remove contents, structure, and filter material. Backfill and cap with clay cover.	Completed: 3/20/92
12	Safe Shutdown	Remove uranium and other material from former processing equipment and ship material and equipment off-site.	Ongoing
13	Plant 1 Ore Silos	Dismantle fourteen ore silos and their support structures.	Ongoing
14	Contaminated Soil Adjacent to Sewage Treatment Plant Incinerator	Isolate or remove and dispose of contaminated soils from the vicinity of the sewage treatment plant.	Ongoing
15	Scrap Metal Piles	Phase I - Disposition LLW ferrous/non-ferrous scrap metal	Ongoing
		Phase II - IIA - Containerization of scrap copper	Completed: 8/29/92
		IIB - Disposition of scrap copper	Ongoing
16	Collect Uncontrolled Production Area Run-off - Northeast	Collect storm water run-off from the northeast perimeter of the former production area in the Storm Water Retention Basin.	Completed: 8/20/93

• Shading denotes completed actions

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NO.	TITLE	SCOPE	STATUS
17	Improved Storage of Soil and Debris	Improve storage of existing and future generated soils and debris.	Ongoing
18	Control Exposed Material in Pit 5	Eliminate potential airborne contamination by re-submerging exposed pit material.	Completed: 8/30/93
Phase III			
19	Plant 7 Dismantling	Dismantle and dispose of the Plant 7 structure.	Ongoing
20	Stabilization of UNH Inventories	Neutralize, filter and package UNH inventory.	Ongoing
21	Expedited Silo 3	Mitigate the potential release of hazardous waste material by covering and sealing dust collector hopper, removing dust collector, and capping and covering obvious release pathways.	Completed: 2/24/93
22	Waste Pit Area Containment Improvement	Stabilize south berm of Pit 4; regrade drainage ditches along Pits 3, 4, 5, and 6; and resurface road between Pits 3, 4, 5, and 6.	Completed: 7/30/93
23	Inactive Flyash Pile	Conduct field investigation to identify locations requiring material removal.	Completed: 4/30/92
24	Pilot Plant Sump	Remove liquid and sludge from the sump.	Completed: 10/15/93
25	Nitric Acid Tank Car and Surrounding Area	Remove residual contents from tank car and decontaminate and dispose of tank car.	Completed: 10/11/93
26	Asbestos Removals (Asbestos Program)	Mitigate the potential for contaminant release and migration of asbestos fibers.	Ongoing

* Shading denotes completed actions

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NO.	TITLE	SCOPE	STATUS
27	Management of Contaminated Structures at the FEMP	Submit an Engineering Evaluation/Cost Analysis for managing contaminated structures. Identify alternatives for managing contaminated structures.	Final EE/CA Approved 6/16/93
28	Contamination at the Fire Training Facility	Remove, decontaminate, dispose, treat or store contaminated structures, equipment, and soil from the former Fire Training Facility.	Ongoing
29	Erosion Control at Inactive Flyash Pile	Mitigate the threat of erosion induced slope failure and discharge of flyash to Paddy's Run.	Final Report Submitted to DOE 2/94

* Shading denotes completed actions

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RA No. 1, Contaminated Water Under FEMP Buildings

Current Month:

Operation of the Plant 8 VOC Treatment System was limited due to Plant 8 priority on dewatering of SWRB cleanout sludges. Accordingly, the perched groundwater extraction wells have remained shut down. Plant 8 operations were made available for RA 1 support at the end of June 1994 to treat accumulated perched water.

Planned Activities:

- Reestablish operation of the perched groundwater extraction wells in July, 1994.

RA No. 3, South Groundwater Contamination Plume

Part 1 - Alternate Water Supply

Current Month:

Activities to complete the transfer of ownership of the Alternate Water Supply System from DOE to Albright and Wilson Americas (A&W) continue. In 1992, the U.S. EPA and Ohio EPA approved deleting Delta Steel from the current scope of the project, with agreement that they would be served by a planned Public Water Supply (PWS). Progress on the PWS continues with some delays being encountered to address archeological and historical items. Requisition for Phase IV, cultural resources work is in the approval process. Project A of PWS from Bolton Plant to Hamilton/Butler County line is scheduled for a public hearing on July 20, 1994; bidding should be shortly thereafter. HCDPW is preparing Grant Amendment A001.

Planned Activities:

- Continue the proceedings to transfer ownership of the Alternate Water Supply to A&W.
- Continue to support Hamilton County on installation of the PWS including service connections.
- Develop language to be used in PWS contract bid documents that will address cultural resource issues.
- Establish FEMP potable water supply policy for off-site residences and businesses.

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RA No. 3, South Groundwater Contamination Plume (continued)

Part 2 - Pumping and Discharge System

Current Month:

On June 4, 1994, Recovery Well No. 4 stopped pumping due to a motor malfunction. On June 6, the motor starter panel for Recovery Well No. 5 was damaged due to a power surge caused by lightning. The undamaged panel from Recovery Well No. 4 was installed at Recovery Well No. 5 on June 13 and 14, 1994. Recovery wells 1, 3 and 5 were returned to service at 450, 550 and 500 gallons per minute (gpm) respectively, to maintain capture of the uranium plume. After the implementation of this revised pumping scenario, slight increases in arsenic concentrations were noted in monitoring wells 2128, 2548 and 2625. Additional modifications to the three-well pumping scheme are being evaluated to minimize the effect of migration of arsenic contamination south of the recovery well field. Arsenic sampling is being conducted on a weekly basis.

Planned Activities:

- Data compilation has begun for the next submittal of the recovery well field operation to the EPAs, scheduled for August 1994.
- During July, continue to evaluate additional modifications implemented to address the arsenic contamination.

Part 3 - Interim Advanced Waste Water Treatment (IAWWT)

IAWWT Storm Water Retention Basin (SWRB) Unit

Current Month:

The IAWWT (SWRB) continued with minimal operational downtime due to improved filtration.

Planned Activities:

- Continue to operate IAWWT (SWRB).

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IAWWT Biotenitrification Effluent Treatment System (BDN-ETS) Unit

Current Month:

Satisfactory operation of the IAWWT (BDN-ETS) unit continues.

Planned Activities:

- Continue to operate with minimal downtime due to permanent ion exchange vessel repairs.

Part 4 - Groundwater Monitoring and Institutional Controls

Current Month:

Sampling of private homeowner and existing RI/FS wells in the South Plume area continues. The FEMP is continuing to monitor the effectiveness of the ion exchange resins at these two residences.

A procedure for resin vessel changeout was completed and approved. Due to plugging of the lead ion exchange vessel at one of the residences prior to uranium breakthrough, the lead vessels at both residences were changed out.

Planned Activities:

- Continue to monitor performance.

Operable Unit 2 Dispute Resolution Supplemental Project (Uranium Reduction in FEMP Discharge)

Step 1

Current Month:

The new IAWWT unit referred to as the South Plume Interim Treatment (SPIT) project was completed and placed in operation on March 31, 1994; satisfactory operation continues.

Planned Activities:

- Continue full operation of the system, treating 200 gpm of South Plume flow.

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Operable Unit 2 Dispute Resolution Supplemental Project (Uranium Reduction in FEMP Discharge) (continued)

Step 2

Current Month:

Use off-peak capacity in Phase I of the Advanced Waste Water Treatment (AWWT) system for South Plume flow when no storm water treatment is required. The AWWT package, now under construction, contains piping and valving to transfer South Plume flow to the existing SWRB pumping station for subsequent transfer to Phase I.

Planned Activities:

- The off-peak capacity will be available when Phase I of the AWWT system becomes operational in January 1995.

Step 3

Current Month:

Installation of the AWWT Phase III line began in April which will eventually serve a future AWWT system, Phase III. This will allow South Plume groundwater to be transferred to the AWWT Phase II system to meet this commitment.

Planned Activities:

- Continue installation of AWWT Phase III line. Step 3 will be available when Phase II of the AWWT becomes operational in January 1995.

Step 4

Current Month:

Extension of the planned operational life of the existing IAWWT SWRB unit by converting it from treating storm water to treating South Plume flow, and increasing capacity from 300 gpm to approximately 400 gpm is scheduled for completion by March 1995. No action was taken during the month of June.

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Operable Unit 2 Dispute Resolution Supplemental Project (Uranium Reduction in FEMP Discharge) (continued)

Planned Activities:

- Conversion of the IAWWT (SWRB) to South Plume groundwater treatment is scheduled to be accomplished between January and March 1995.

RA No. 4, Silos 1 and 2

Current Month:

The results of the video camera investigation of the Silo 2 bentonite cap (due to a slight upward trend in headspace radon concentration) were compared against baseline videos of the bentonite surface taken immediately following its installation. Overall, the bentonite cap integrity is in very good condition. The Removal Action No. 4 Final Report was issued to DOE-HQ on March 25, 1994. Comments from DOE-HQ on the Final Report were received on April 21, 1994 and a comment resolution meeting was conducted on April 28, 1994. The Removal Action No. 4 Final Report was transmitted to DOE on May 13, 1994 and subsequently transmitted to the U.S. EPA and Ohio EPA on May 17, 1994.

Planned Activities:

- The U.S. EPA and Ohio EPA will review the Removal Action No. 4 Final Report and provide comments by July 17, 1994 (60 days).

RA No. 5, K-65 Decant Sump Tank

Current Month:

In an effort to reduce worker exposure to the Decant Sump Tank and to improve confidence in the liquid level measurements, DOE is proceeding to install a submersible pressure indicator/transmitter in the tank. The new water level indicator equipment will allow for accurate, continuous, and remote level readings from the tank.

Planned Activities:

- The action to install the new water level indicator is expected to be completed by the end of July 1994.

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RA No. 7, Plant 1 Pad Continuing Release

Current Month:

Phases "C" and "D", including Tension Support Structure #6, were completed in June 1994. The subcontractor's (Ind-Com Builders, Inc.) work was conditionally accepted.

Planned Activities:

- Drum movements started during June, will allow construction on Phase E to resume in July 1994.
- Removal of the first of three existing tension support structures (1, 2, and 3) in Phase E began in June, with completion planned in July 1994.

KEY MILESTONES	STATUS	DUE DATE
Complete Installation of Stage III and Tension Support Structure	Open, behind schedule	February 21, 1995

RA No. 9, Removal of Waste Inventories

Current Month:

The volume of waste shipped off-site in June was 5,875 DEs for a total of 41,961 DEs shipped to the NTS in FY-94. This volume includes 9,574 drums of residues removed from inventory and shipped to-date.

Pursuant to the CERCLA Offsite Rule, SEG was added by U.S. EPA Region IV to the list of facilities approved to receive waste from a CERCLA site. This allowed shipment of residues to resume to SEG. These shipments had been delayed pending resolution of this issue.

DOE-NV approval of the revised FEMP Application to Ship Waste to the Nevada Test Site, Rev. 5.1, was received in June 1994. This application approval released the AMCCOM metal for shipment to the Nevada Test Site on June 22, 1994.

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RA No. 9, Removal of Waste Inventories (continued)

Planned Activities:

- During July, shipping activities will include the resumption of residue shipments from SEG to the NTS. Initiation of AMCCOM and thorium shipments will also be in July 1994.

KEY MILESTONES	STATUS	DUE DATE
Submit Annual Work Procedures for 1994	June 30, 1994	June 30, 1994

RA No. 12, Safe Shutdown

Current Month:

Of the first three Implementation Plans for the removal of hold-up materials from equipment in Plant 4, the Potassium Hydroxide (KOH) system has been completed, a Hazard Assessment was completed for the HF Recovery System and the work is in process, as well as clean-out of the H₂ off-gas system.

The verification of the production equipment in all process plants has been completed, except for Plants 2/3, Refinery. The red-lining of as-built floor plan drawings to agree with equipment verification is continuing.

The following is the status of capital equipment: of an estimated 1,686 total number of items, 1,187 have been reported on AC-563 Forms to be excessed, and 499 have been identified as "In Use/Future Use" items. This information may vary from month-to-month due to change in status of equipment items and/or as a result of field verification.

Nine hundred and nine (909) maintenance work orders to isolate and disconnect all utilities/energy sources from equipment not in use have been prepared. Of these, 495 have been completed. Field verification of the completed orders is ongoing. Completion of these work orders is a preliminary step for removal of hold-up material from the equipment in preparation for equipment removal and decontamination and decommissioning. These numbers may vary from month-to-month due to change in status of the equipment.

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RA No. 12, Safe Shutdown (continued)

Four-hundred twenty-four (424) task orders to determine if hold-up material is present in equipment have been prepared; of these, 140 have been completed. Also, 146 task orders to remove the hold-up material from equipment have been prepared; of these, two (2) have been completed.

Weekly conference calls, concerning the sale of uranium materials from the Hanford and Fernald Sites, continue with Westinghouse Hanford Company, DOE-Richland, and DOE Headquarters. The preparation of the NEPA document "Environmental Assessment (EA) for the Packaging/Repackaging, Loading, and Transportation Associated with the Sale of Uranium Materials Located at the Hanford Site, Richland, Washington, and the Fernald Site, Fernald, Ohio" is ongoing. This EA was to have covered the international sale of uranium to the French company, COGEMA, and the British company, BNFL. DOE-HQ has directed DOE-FN and the Fernald contractor, FERMCO, to prepare a separate NEPA document, a categorical exclusion (CX), to cover the sale of depleted UF₆ to BNFL. A draft CX has been prepared.

The fifth shipment of depleted derbies was to have been shipped to the customer, Manufacturing Sciences Corporation (MSC) in Oak Ridge, Tennessee, on June 30, 1994. However, the customer was delayed in getting the empty boxes ready for return; and the shipment will be made on Friday, July 1, instead. That shipment will bring the total shipped to 85 metric tons uranium (MTU) of 440 MTU.

Samples of seven (7) lots of normal UF₆ were shipped to an independent laboratory (Environmental Physics, Inc., Charleston, South Carolina) to be analyzed for AlliedSignal. If the results of those analyses are favorable, AlliedSignal may be interested in obtaining the inventory of 230 MTU of normal UF₆.

Approval was received June 24, 1994, to ship the remaining Army metal to the Nevada Test Site (NTS) for burial. This material is Phase II of the removal of all Army-owned material from the site (Phase I was the successful removal of 1843.5 MTU, which was completed in November 1992). Phase II will cover the removal of 1028 MTU in 70 shipments at the rate of five (5) per week and is expected to be complete in 14 weeks.

Removal of dust collectors for transfer to Martin Marietta Energy Systems (MMES), Oak Ridge, TN, was completed in June.

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RA No. 12, Safe Shutdown (continued)

Planned Activities:

- Follow up with Hanford and the DOE on the required NEPA documentation for the sale of the excess uranium materials.
- Continue to issue work orders to disconnect utilities from process equipment and issue task orders to identify and/or remove hold-up materials from process equipment.
- Continue to expedite utility isolation, identify hold-up in equipment, and remove/drum hold-up material from the process equipment.
- Continue verification of the equipment in Plants 2/3, Refinery, in support of the UNH neutralization program.
- Continue to prepare implementation packages and obtain appropriate approvals. Continue field inspections of implementation activities.
- Initiate shipments of 4A metal to the Nevada Test Site.
- Continue shipping depleted derbies to MSC in Oak Ridge, Tennessee.
- Begin removal of equipment from Plants 5 and 6 to be used in the CRU4 Pilot Plant.

KEY MILESTONES	STATUS	DUE DATE
Submit Annual Work Procedures for 1994	June 23, 1994	June 30, 1994

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RA No. 13, Plant 1 Ore Silos

Current Month:

All structural steel has been removed from the concrete silo location and moved to the D&D facility for recycling. Scaffolding has been erected at the tile silos. All platforms have been removed from the top of the tall tile silos. The size-reduction operation is ongoing.

Planned Activities:

- Complete installation of containment at tile silos.
- Install ventilation system at the tile silos.
- Remove caps from the tile silos.

KEY MILESTONES	STATUS	DUE DATE
Complete Removal Action	Estimated completion date October 1994	December 19, 1994

RA No. 14, Contaminated Soils Adjacent to Sewage Treatment Plant Incinerator

Current Month:

Zone 4 (off-site property) was excavated and verification soil samples were collected. The area was backfilled with clean topsoil and the original boundary fencing was replaced. Excavated soil was transported via dump truck to the OU 5 Clean Soil Stock Pile, located southwest of the storm water retention basin (SWRB). Preliminary sample analyses indicate no detection of total uranium in the off-property soil (i.e., ≤ 11 ppm). Verification soil samples were collected from Zone 2 (on-property) located west of the sewage treatment plant incinerator. A letter requesting an extension to the due date of the Final Report (from September 26, 1994 to December 3, 1994) was submitted to the U.S. EPA on June 30, 1994.

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**RA No. 14, Contaminated Soils Adjacent to Sewage Treatment Plant Incinerator
(continued)**

Planned Activities:

- Receive approval from the U.S. EPA to change the Consent Agreement Milestone due date for submittal of the final report.
- Receive analytical data from laboratory for Zones 2 & 4.
- Continue to prepare the Final Report.

KEY MILESTONES	STATUS	DUE DATE
Phase V - Submittal of Final Report	Open, behind schedule.	September 26, 1994

RA No. 15, Scrap Metal Piles

Current Month:

Phase I: Slag and aluminum compaction and overpacking were completed. DOE-NV conditionally approved the shipment of slag and aluminum (about 25 overpack boxes) to NTS. SEG completed sampling and analysis of the remaining slag/oxide.

Phase II: The path forward for the scrap copper beneficial reuse is being evaluated.

Planned Activities:

- Determine disposition of Phase I mixed waste.
- Receive DOE-NV approval to ship remaining Phase I slag and aluminum to NTS and to ship sulfur cement solidified waste to NTS.
- Ship approved Phase I waste streams to NTS.
- Develop schedule of Key Milestones for Phase II.

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RA No. 15, Scrap Metal Piles (continued)

KEY MILESTONES	STATUS	DUE DATE
Phase I - On-Site Processing Off-Site Processing	Completed Completed	September 30, 1993 March 25, 1994
Phase I - Submit Final Report	Open, ahead of schedule	September 30, 1994 to U.S. EPA
Phase IIB: Submittal of Subcontractor's Removal Action Project Plan	Open, behind Schedule	September 30, 1993
Phase IIB: Submittal of Final Report	Open, behind schedule	March 30, 1995

RA No. 17, Improved Storage of Soil and Debris

Current Month:

June activities included Title II design for the regrading and placement of a vegetative cover over the existing soil and rubble pile north of Third Street. Comment responses to the 50% design package are under evaluation. The 90% design review package was available on June 13, 1994. Analysis results of samples taken of residues/debris left from the scrap metal previously stored on the SMP has been completed. A statistical analysis of the results was performed by Site Media Sampling and issued to Waste Characterization on June 22, 1994. Began development of the implementation plan for removing these debris/residues was issued to RSO on June 23, 1994. The subcontractor bid package for the Decontamination Facility Pad (DFP) structure is being prepared. Both the U.S. EPA and Ohio EPA are evaluating the proposal to relocate the Central Storage Facility from the northeast corner of the process area to the southwest quadrant of the FEMP.

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RA No. 17, Improved Storage of Soil and Debris (continued)

Planned Activities:

- Comment on the 90% design for the Third Street soil and rubble pile on July 12, 1994. Complete CFC design of the regrading and seeding plan for the existing Third Street soil and rubble pile on July 26, 1994.
- Approve implementation plan for removal of the remaining debris/residue at the SMP and begin the field work.
- Complete bid package for the DFP structure and issue for subcontractor bid.
- Obtain the U.S. EPA's and Ohio EPA's approval for relocation of the Central Storage Facility.

RA No. 19, Plant 7 Dismantling

Current Month:

Interior bulk removal work, removal of interior transite and batt insulation, all of which began in March, was completed in May 1994. The application of encapsulant coating to the interior of the exterior transite siding was completed in June 1994. The bridge crane and west canopy roof transite have been removed.

Planned Activities:

- Continue to dismantle and remove exterior structures including pipe racks, tanks, and bridge crane support structures.
- Erect work platforms to begin exterior transite removal of the north and west walls, roof, and stacks.
- Obtain approval on Plant 7 fell-plan.

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RA No. 20, Stabilization of UNH Inventories

Current Month:

Construction of the new UNH transfer pipe continued. The Removal Action Work Plan and Operational Readiness Review Plan of Action were completed and issued to DOE-FN. The procedure and training plan for of UNH from tank F1-26 to tank F1-2 are almost complete. Maintenance has repaired all UNH leaks with one leak repair still in progress. The bench-scale testing of the UNH has been completed and a report issued. The development of operating procedures and the installation of blanks and blind flanges to isolate the UNH storage tanks commenced.

Planned Activities:

- Continue construction of transfer pipe.
- Complete repairs of UNH leaks.
- Transfer UNH from tank F1-26 to tank F1-2.
- Continue development of UNH operating procedures.
- Issue project specific Health and Safety Plan.
- Continue isolation of UNH storage tanks.
- Restart East/West EIMCO filters in Plant 8.
- Issue TSR for tank D1-7.
- Issue project SAR for sitewide review.

RA No. 26, Asbestos Removals (Asbestos Program)

Current Month:

The annual submittal of updated Work Procedures for Asbestos Removals was provided to the EPAs by June 30, 1994.

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Removal Actions

RA No. 26, Asbestos Removals (Asbestos Program) (continued)

Planned Activities:

- Complete the CFC package and begin construction activities for encapsulation/encasement of transite siding and roofing on the Metal Dissolver Building.
- Complete the compilation of work packages and begin construction activity on the thermal system insulation removal at the Harshaw Towers.

RA No. 28, Contamination at the Fire Training Facility

Current Month:

The Construction Design Package was completed. The Health and Safety Plan for removal of the seven piezometers in the area was completed and the piezometers were removed and plugged. Grass in the area was cut in preparation for the start of field work. Sampling plans for the concrete block in the building, verification sampling, soil pile sampling, and soil borings were started.

Planned Activities:

- Field work is planned to begin in July 1994.

RA No. 29, Erosion Control at Inactive Flyash Pile

Current Month:

The final report went through internal review with no comments.

Planned Activities:

None to report.

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Remedial Investigations/Feasibility Studies

1.0 Operable Unit 1

Operable Unit 1 (OU 1), as defined in the Amended Consent Agreement, includes Waste Pits 1 - 6, Clearwell, Burn Pit, berms, liners, and soil within the operable unit boundary.

1.1 RI/FS Work Plan

Status:

Complete.

Issues/Corrective Actions:

None to report.

1.2 Remedial Investigation

Status:

Received conditional approval of OU 1 Remedial Investigation/Baseline Risk Assessment from U.S. EPA on April 4, 1994. Submitted comment responses and draft proposed change pages for U.S. EPA and Ohio EPA review and approval on May 4, 1994. Comment resolution for final document preparation and approval is in progress.

Issues/Corrective Actions:

None to report.

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1.2 Remedial Investigation (continued)

OPERABLE UNIT 1 REMEDIAL INVESTIGATION REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature and extent of contaminants within the OU 1 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	10/4/93 A	12/20/93 A	02/04/94 A

C = Consent Agreement Date

A = Actual

* = Request for extension

1.3 Feasibility Study/Proposed Plan

Status:

Received Ohio EPA comments on the draft OU 1 Feasibility Study/Proposed Plan-Environmental Assessment (FS/PP-EA) on May 24, 1994. Received U.S. EPA comments on June 1, 1994. Revisions to the FS/PP-EA are in progress; the revised documents are due to U.S. EPA and Ohio EPA on July 1, 1994.

Issues/Corrective Actions:

None to report.

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1.3 Feasibility Study/Proposed Plan (continued)

OPERABLE UNIT 1 FEASIBILITY STUDY/PROPOSED PLAN PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis is performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	03/04/94 A	06/01/94 A	07/01/94 A

C = Consent Agreement Date

A = Actual

1.4 Treatability Studies

The OU 1 treatability studies have evaluated several treatment process options identified in the OU 1 Initial Screening of Alternatives document, including cement stabilization, vitrification, thermal treatment, and agglomeration. The FEMP evaluated the technical feasibility of these technologies through a series of laboratory experiments.

Where appropriate, the FEMP investigated performance criteria, including formulation ranges, compressive strength, leachability, bulking factor, and permeability. Cement stabilization binding agents, including portland cement, flyash, blast furnace slag, and sodium silicate, were evaluated. Glass formers and modifiers considered for vitrification were flyash, soil, and sodium hydroxide.

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1.4 Treatability Studies (continued)

Status:

Remedy Screening/Remedy Selection Treatability Studies in support of the OU 1 Remedial Investigation/Feasibility Study are complete. OU 1 treatability studies to support remedy design will be developed as needed based on the Proposed Plan and Record of Decision.

Issues/Corrective Actions:

None to report.

1.5 Record of Decision

Draft OU 1 Record of Decision (ROD) was prepared and submitted for internal DOE review.

1.6 Planned Activities for July 1994

- Continue preparing comment responses and proposed change pages for the draft Final OU 1 Feasibility Study/Proposed Plan-Environmental Assessment (FS/PP-EA). Submit the revised draft Final FS/PP-EA on July 1, 1994.

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2.0 Operable Unit 2

Operable Unit 2 (OU 2), as defined in the Amended Consent Agreement, includes the Flyash Piles, other South Field disposal areas, Lime Sludge Ponds, Solid Waste Landfill, berms, liners, and soil within the operable unit boundary.

2.1 RI/FS Work Plan Addendum

DOE-FN submitted the Remedial Investigation Report for OU 2 to the U.S. EPA and Ohio EPA in October 1992. Based on December 17, 1992, review comments from the U.S. EPA and Ohio EPA on the RI Report and subsequent disapproval of the document, OU 2 required a second phase of Remedial Investigation sampling and analysis in order to meet the objectives of the March 1988 RI/FS Work Plan.

Status:

Complete.

Issues/Corrective Actions:

None to report.

2.1.1 RI Field Investigation

Status:

Analysis of Round Two sample collections of monitoring wells was completed.

Issues/Corrective Actions:

None to report.

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2.2 Remedial Investigation

Status:

Formal comments on the February submittal of the OU 2 Draft Remedial Investigation (RI) Report were received from the Ohio EPA and U.S. EPA on April 19 and April 22, 1994, respectfully. Comments were incorporated into the document. A Response to Comments Document was compiled and submitted with three revised volumes of the draft RI.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 2 REMEDIAL INVESTIGATION REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature and extent of contaminants within the OU 2 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	02/18/94 C	04/22/94 C	06/15/94 C (due to extension)

C = Consent Agreement Date

2.3 Feasibility Study/Proposed Plan

Status:

Based on early Feasibility Study comments from U.S. EPA and Ohio EPA it was agreed that the OU 2 FS would be reformatted to add clarity and that a new preferred alternative would be written into the Proposed Plan.

Issues/Corrective Actions:

- Reformat sections 4, 5, and 6 and clarify the Appendix.
- Rewrite Proposed Plan to include new preferred alternative.

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2.3 Feasibility Study/Proposed Plan (continued)

OPERABLE UNIT 2 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	04/29/94 C	07/05/94 C	08/24/94 C

C = Consent Agreement Date

2.4 Treatability Studies

Status:

None to report.

Issues/Corrective Actions:

None to report.

2.5 Planned Activities for July 1994

- Health and Safety Plan for the maintenance activities of the Active Flyash Pile will be revised.
- Complete the Cost Estimate for the Active Flyash Pile maintenance activities.
- Incorporate EPA comments into the Draft OU 2 FS Report and Response to Comments document.
- Reformat sections 4, 5, and 6 of the Feasibility Study.
- Rewrite Proposed Plan to include the new preferred alternative.

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Remedial Investigations/Feasibility Studies

3.0 Operable Unit 3

Operable Unit 3 (OU 3), as defined in the Amended Consent Agreement, includes the Production Area and production-associated facilities and equipment (including all above-and below-grade improvements) including all structures, equipment, utilities, drums, tanks, solid waste, waste, product, thorium, effluent lines, K-65 transfer lines, waste water treatment facilities, fire training facilities, scrap metal piles, feed stocks, and coal pile.

3.1 RI/FS Work Plan

Status:

Thirteen Field Work Packages (FWPs) were completed, approved, and distributed in June 1994 with the sampling identified therein, encompassing a large extent of the samples anticipated to be taken in the next couple months of OU 3 RI/FS sampling.

Issues/Corrective Actions:

None to report.

3.1.1 Field Investigations

Scope:

The OU 3 Field Investigations Program gathers information necessary to perform a baseline risk assessment. The program also identifies the nature of contaminants in the operable unit, refines estimates of volume of contaminated materials, and supports initial screening of applicable alternatives.

Status:

Field screening for chemical and metals contamination continued throughout June 1994 using two field portable X-Ray fluorescence analyzers, a field portable gas chromatograph and photo-ionization detectors. Chemical screening was performed to support selection of intrusive media locations in the Soil Piles, High Nitrate Tank, Low Nitrate Tank, Pilot Plant Wet Side, Metals Production Plant, Special Products Plant, Metals Dissolver Building, Quonset Hut #3, 6 to 4 Reduction Facility, Clearwell Pump House, and Thorium Tank Farm.

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Remedial Investigations/Feasibility Studies

3.1.1 Field Investigations (continued)

Intrusive media sampling was initiated in the Trailer Substation #1, Plant 9 Electrical Substation, Main Electrical Switchhouse, Administration Building, Sump Pump House, Heavy Equipment Building, General/Refinery Sump Control Building, and KC-2 Warehouse. Intrusive media sampling continued in the Conveyor Tunnel from Plant 1, High Nitrate Tank, Low Nitrate Tank, Coal Pile Runoff Basin, Service Building, Main Electrical Substation, Salt Oil Heat Treatment Building, Slag Recycling Pit/Elevator, Special Products Plant, Chemical Warehouse, Bulk Lime Handling Building, High Nitrate Storage Tank, CP Storage Warehouse, Finished Products Warehouse, Drum Reconditioning, Pilot Plant Wet Side, Metals Production Plant, Soil Piles, and Engine House/Garage. A total of 106 intrusive samples were collected in June 1994.

The remaining samples for Task Order 4 against the Radioanalytical Laboratory Services Task Order Subcontract, for the radioanalytical analysis of the OU 3 RI/FS samples, were shipped to TMA/Eberline in June 1994. Shipment of samples for Task Order 5, 7, and 8 to Core Laboratories began in early June 1994. Task Order 9 was awarded to Lockheed Laboratories in June, and shipment of the associated samples is expected to begin in early July 1994. Bids have been received on Task Order 10, but award is contingent upon completion of a pre-award survey of the low bidder, scheduled for early July 1994. Task Orders 11 and 12 are under development.

Issues/Corrective Actions:

None to report.

3.2 Remedial Investigation

OPERABLE UNIT 3 REMEDIAL INVESTIGATION REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature and extent of contaminants within the OU 3 study area. Estimates the volume of contaminated media and materials. Characterizes contamination in the former production area and establishes remedial action objectives.	03/13/96 C	05/12/96 C	06/11/96 C

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3.2 Remedial Investigation (continued)

Status:

Formal development of the RI has begun in the form of report planning, RI Report layout, and non-data dependent background information collection/integration. A revised schedule and cost savings for the RI is being evaluated based upon the DOE proposal to eliminate the Baseline Risk Assessment. Data management procedures have been implemented to track and manipulate field characterization data. As of June 21, 1994, approximately 71% of the chemical field characterization analytical data and 4% of the radiological field characterization analytical data have been received from the laboratories. Approximately 54% of planned chemical data to be collected has been validated.

Issues/Corrective Actions:

None to report.

3.3 Feasibility Study/Proposed Plan

Status:

OU 3 has not begun formal activities on the Feasibility Study, although alternatives research, initial screening, and document layout planning have been initiated. Based upon the DOE proposal to EPA to eliminate the OU 3 Baseline Risk Assessment (BRA), the schedule for the FS is being evaluated for potential acceleration and cost savings. An innovative approach which would combine the OU 3 and OU 5 FS and subsequent RI/FS documents is being considered. As a result of the development of a Proposed Plan for Interim Action, the Feasibility Study will not address initial decontamination or dismantling, but will focus on treatment and disposition issues, which remain the scope of the final action and final Record Of Decision. The document, whether combined with OU 5 or not, will be a focused FS, since the range of viable alternatives is severely limited.

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3.3 Feasibility Study/Proposed Plan (continued)

OPERABLE UNIT 3 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	04/12/96 C	08/07/96 C	11/05/96 C

C = Consent Agreement Date

Issues/Corrective Actions:

None to report.

3.4 Treatability Studies

Status:

The FEMP will conduct remedy screening treatability studies in parallel with the field investigation and alternatives development. OU 3 has developed a Treatability Study Work Plan (TSWP) to include initially-identified studies to be performed. The TSWP was submitted to the U.S. EPA on December 22, 1993, ahead of the scheduled January 15, 1994 due date. U.S EPA approval was received April 13, 1994 for the TSWP. Additional tests will be planned and submitted as addenda to the TSWP, once identified and detailed. Contracting activities are well underway for initially identified tests. Additional small-scale demonstration tests are also being planned and implemented. Recycling activities are also generating data for treatment decision-making.

Issues/Corrective Actions:

None to report.

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3.5 Interim Action - Record of Decision

Status:

The IROD was signed by DOE and forwarded for U.S. EPA signature on June 10, 1994.

Issues/Corrective Actions:

None to report.

3.6 RD/RA Work Plan

The Interim RD/RA Work Plan will detail how design activities will be performed to meet the scope of the interim remedial action for facility decontamination and dismantlement, and how this design will then be implemented through the remedial action program.

Status:

FERMCO and DOE-FN have had several interchanges during June 1994 to finalize what additional modifications/enhancements are necessary to meet DOE's and EPA's expectations for the OU 3 RD/RA Work Plan for the Interim Remedial Action. FERMCO has drawn upon additional resources within its organization and teaming partner organizations to support in this effort. A major change proposed by DOE-FN, and agreed to by U.S. EPA in a meeting on June 14, 1994, is to separate the long-term sequencing out of the RD/RA Work Plan, and to submit it about six months after submittal of the Work Plan as the Remedial Design Prioritization and Sequencing Report. Draft revisions of the Work Plan are expected by the end of the month, keeping the project on schedule so as to provide for submittal of the RD/RA Work Plan within sixty days after issuance of the IROD.

Issues/Corrective Actions:

None to report.

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3.7 Planned Activities for July 1994

- Initiate OU 3 FS execution based on DOE and EPA agreements on project path forward.
- Seek to obtain U.S. EPA approval on the Interim Action Record of Decision (IROD). Seek to obtain Ohio EPA letter of concurrence to satisfy public request.
- Continue efforts in revising the RD/RA Work Plan for planned submittal to the EPAs within 60 days of signature of the IROD, including having an internal FERMCO/DOE-FN review of the document in mid-July 1994.
- Continue efforts to develop a waste management model in support of the RD/RA Work Plan, the OU 3 Waste Disposition Plan, and the Remedial Design Prioritization and Sequencing Report.
- Continue efforts to complete the shipment of samples under the fifth, seventh, and eighth Task Orders against the Radioanalytical Laboratory Services Task Order Subcontract. Begin shipment of samples under the ninth and tenth Task Orders.
- Continue efforts to support the placement of the eleventh and twelfth radiological task orders in July, with possible shipment of samples for radioanalytical analysis beginning in July/August 1994.
- Complete the writing of Field Work Packages (FWPs) for the OU 3 RI/FS sampling program. It is anticipated that the remaining 15 FWPs will be reviewed and approved in July 1994.

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4.0 Operable Unit 4

Operable Unit 4 (OU 4), as defined in the Amended Consent Agreement, consists of Silos 1, 2, 3, and 4, the silo berms, the Decant Sump Tank System, and soil within the operable unit boundary.

4.1 RI/FS Work Plan

Status:

Complete.

Issues/Corrective Actions:

None to report.

4.2 Remedial Investigation

Status:

The OU 4 Remedial Investigation Final Report was transmitted to the U.S. EPA on October 29, 1993. Ohio EPA approved the document on November 23, 1993. U.S. EPA conditionally approved the RI on January 6, 1994. Three additional comments on the OU 4 Remedial Investigation Final Report were received from U.S. EPA on April 27, 1994. Responses and changed pages were transmitted to U.S. EPA on May 27, 1994.

Issues/Corrective Actions:

None to report.

4.3 Feasibility Study/Proposed Plan

Status:

Complete.

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4.3 Feasibility Study/Proposed Plan (continued)

At the request of the public, the public comment period for the OU 4 Feasibility Study/Proposed Plan - Draft Environmental Impact Statement has been extended twice, for a total of sixty days. The public comment period ended on June 19, 1994.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 4 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis is performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	09/10/93 C 09/09/93 A	11/10/93 C 11/12/93 A	12/28/93 C 12/21/93 A

C = Consent Agreement Date

A = Actual Date

4.4 Treatability Studies

4.4.1 Bench Scale Treatability Studies

A Treatability Study Work Plan addresses the additional information that is required to support the FS and subsequent remedy selection for OU 4. There are two separate treatability studies to support the OU 4 FS. One study considers cement stabilization of Silos 1, 2, and 3 material and chemical extraction, leachate precipitation, and leachate stabilization of Silos 1 and 2 material. The second treatability study considers the vitrification of Silos 1, 2, and 3 material.

Status:

Complete.

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4.4.2 Pilot Plant Treatability Studies

A two phase Pilot Plant Treatability Study is being conducted to develop the design of facilities and equipment for the final remediation of OU 4. Phase I will utilize bentonite and surrogate materials, the pilot plant scale vitrification facility, and the empty Silo 4 as a test bed for demonstrating both vitrification and waste retrieval technologies. Phase II will utilize bentonite, actual K-65 and Silo 3 materials retrieved from the silos in addition to treating radon gas. A work plan has been developed for each phase.

Status:

Comments received on The Pilot Plant Phase I Work Plan from U.S. EPA have been responded to and the impacts have been incorporated into the Pilot Plant Phase II Work Plan. Completed.

The Pilot Plant Phase II Work Plan was submitted to U.S. EPA on May 11, 1994. Ohio EPA comments on the Phase II Work Plan were received on June 14, 1994.

The Preliminary Safety Analysis Report for OU 4 was submitted to DOE-HQ for review. Comments were received on May 5, 1994. Formal responses to the DOE-FN comments were submitted on June 13, 1994.

Approval to begin construction was received June 1, 1994 from DOE-FN. Construction of the Pilot Plant facility began on June 23, 1994.

Pilot Plant Phase I Operations are projected to begin in March 1995.

Issues/Corrective Actions:

None to report.

4.5 Record of Decision

Status:

The proposed draft Record of Decision for OU 4 was submitted to DOE-HQ on May 27, 1994 for final review and comments. Because of the sixty day schedule extension to the OU 4 Feasibility Study/Proposed Plan - Draft Environmental Impact Statement (FS/PP-DEIS) public comment period, the Amended Consent Agreement submittal date for the draft ROD has been extended by the U.S. EPA until August 9, 1994.

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4.5 Record of Decision (continued)

DOE-HQ comments on the proposed draft Record of Decision (ROD) for OU 4 were received on March 29, 1994. The comment responses are being prepared and incorporated into the Proposed Draft Record of Decision for OU 4. The revised Proposed Draft Record of Decision for OU 4 was submitted to DOE-HQ on April 11, 1994. Final DOE-HQ comments were resubmitted May 2, 1994.

The public comment period on the OU 4 FS/PP-DEIS was ended on June 19, 1994. The proposed draft Record of Decision for OU 4 has been revised in accordance with all comments received from the public. The proposed draft Record of Decision for OU 4 contains the Responsiveness Summary to all public comments.

4.6 Planned Activities for July 1994

- Obtain DOE-HQ approval and submit the Proposed Draft Record of Decision for Remedial Action at OU 4 to the U.S. EPA and Ohio EPA.
- Receive and respond to U.S. EPA/Ohio EPA comments on the Removal Action No. 4 Final Report.
- Receive and respond to U.S. EPA comments on the Pilot Plant Phase II Work Plan.
- Continue construction of the Phase I Pilot Plant facility.

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5.0 Operable Unit 5

Operable Unit 5 (OU 5), as defined in the Amended Consent Agreement, includes: groundwater, surface water, and soil not included in the definitions of Operable Units 1 through 4, sediment, flora and fauna.

5.1 Remedial Investigation

Status:

The draft Remedial Investigation (RI) was completed on June 23, 1994. The report was submitted to the U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (Ohio EPA) on June 24, 1994, meeting the Amended Consent Agreement submittal date of June 24. The 18-volume document includes the main report of 5 volumes, 1 plate binder of approximately 300 18 x 24-in figures, and 12 volumes of reference appendices. Appendix B of the RI Report is the Site-Wide Ecological Risk Assessment which incorporates responses to the EPAs' latest comments on the screening level document.

The *Characterization of Background Water Quality for Streams and Groundwater* report, dated May 1994, was transmitted to the U.S. EPA and Ohio EPA on June 8, 1994.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 5 REMEDIAL INVESTIGATION REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Details the nature and extent of contaminants within the OU 5 study area. Estimates the volume of contaminated media and materials. Provides a baseline risk assessment and establishes remedial action objectives.	06/24/94 C	08/23/94 C	09/22/94 C

C = Consent Agreement Date

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5.2 Feasibility Study/Proposed Plan

Status:

Section 1 is complete with the exception of further revision of the Nature and Extent Uncertainties. Section 2 is in the final editing stage. Section 3 (Initial Screening) is undergoing final editing prior to peer review. Section 4 (Detail Analysis) is in preparation and is approximately 80 percent complete. Component and alternative cost evaluations are complete.

A presentation of preliminary FS findings was made to the EPAs on June 29, 1994. Presented were 1) land use alternatives and engineering objectives to meet them; 2) soil volumes; 3) preliminary component costs; and 4) cell siting assumptions. One major issue raised was the logic of placing a proposed cell in the area of "best" (man-made versus natural) geology.

Issues/Corrective Actions:

None to report.

OPERABLE UNIT 5 FEASIBILITY STUDY/PP REPORT

PRIMARY MILESTONES

SCOPE	SUBMIT TO EPA	RECEIVE FROM EPA	SUBMIT TO EPA FINAL
Describes and analyzes potential remedial alternatives. A comparative analysis will be performed for all alternatives. The Proposed Plan identifies potential remedial alternatives as listed in the FS and presents the preferred alternative to the U.S. EPA and the public.	11/16/94 C	01/15/95 C	02/14/95 C

C = Consent Agreement Date

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Remedial Investigations/Feasibility Studies

5.3 Treatability Studies

The current treatability study activities are focusing on support of the OU 5 FS Report, specifically the development of the Treatability Appendix. In addition, bench testing activities at the FEMP are providing data in support of remedial design issues.

Status:

Analytical data from contracted laboratory analyses for the COC testing has been incorporated into the Sitewide Environmental Database (SED). This data is currently being incorporated into the treatability study report for the OU 5 FS. Data validation has been essentially completed for all contracted laboratory analyses for all other treatability data. The incorporation of OU 5 FS treatability data in the SED is one of the first utilizations of the SED for data other than RI data. The structuring of a treatability database in the Oracle-based SED has provided DOE a template for a database structure on a national basis.

Treatability testing in support of OU 5's FS is focusing on optimizing physical separation processes within the proposed soil washing system. Laboratory bench-testing is characterizing uranium distribution among the soil particle size fractions for the twelve soils from the Fernald site. The soils are being evaluated for uranium loadings on the sand, silt and clay fractions. These basic characterization tests could indicate that simple physical separation processes within the soil washing system may provide a specific fraction of the soil that meets both residual uranium mass concentrations as well as a form of residual uranium that is resistant to further leach (as determined by equilibrium testing).

Issues/Corrective Actions:

None to report.

5.4 Planned Activities for July 1994

- Continue preparation of draft OU 5 FS and submit for internal review by July 21, 1994.
- Continue treatability testing in support of the OU 5 FS.

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Remedial Investigations/Feasibility Studies

6.0 Community Relations

Status:

On June 1, 1994 approximately 40 people attended the Fernald Dosimetry Reconstruction Workshop conducted by the Centers for Disease Control and Prevention. Dr. John Till from Radiological Assessments Corporation said more data was needed in order to complete the final task report. He informed the public another workshop would be held later this summer and the final report (Task 6) is scheduled to be completed by November 30, 1994.

On June 2, 1994, 28 people attended a community roundtable on the Remedial Design/Remedial Action (RD/RA) process for OU 3. The following were discussed at the roundtable: overview of the Interim Remedial Action, public participation opportunities, and the RD/RA process; methodology of decontaminating and dismantling OU 3 structures; criteria for sequencing the structures; methods used to protect human health and the environment during the interim action; and preparation and submittal of RD/RA implementation plans to U.S. EPA and Ohio EPA.

DOE-FN held an orientation working session for Fernald site natural resource trustees on June 6, 1994. Representatives from the Ohio Environmental Protection Agency (Ohio EPA), the U.S. Fish and Wildlife Service (FWS), and DOE-FN were in attendance. Trustees not in attendance include the U.S. Department of Interior (DOI). Since this was the first meeting of Fernald site natural resource trustees, the primary focus was to provide background information about the Fernald site. The trustees present toured the former production area and the perimeter of the site. In the afternoon, presentations were made regarding the regulatory drivers for trusteeship and the trusteeship process. A discussion period followed, and the trustees agreed that DOE-FN should contact several other potential natural resource trustees or stakeholders to determine whether or not they should be involved in the Fernald site trustee process, namely the National Oceanic and Atmospheric Administration and the U.S. Army Corp of Engineers. Several administrative decisions were reached as well, including the agreement to use FERMCO in an administrative role.

On June 7, 1994, the *Fernald Project Cleanup Report* was mailed to the 2000+ DOE-FN mailing list.

The Fernald Envoys held their monthly meeting on June 8, 1994. Updates about the OU 3 Interim Record of Decision and the Public Water Supply System were presented to the envoys. In addition, the envoys gave updates about various activities taking place within their stakeholder groups. Each month the envoys will present the same topic to their group(s) and turn the feedback in to the Envoy Program Coordinator who will pass the information on to the appropriate decision-makers.

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Remedial Investigations/Feasibility Studies

6.0 Community Relations (continued)

On June 9, 1994, the Fernald Citizens Task Force held its first public meeting to receive input from the general public on potential future uses for the Fernald site. About 34 members of the public, FERMCO, DOE, and Ohio EPA attended. The main activity was playing the future use exercise, *FutureSite*.

The Fernald Citizens Task Force held its regular monthly meeting on June 11, 1994, at the AmeriSuites Hotel in Forest Park, Ohio. About 27 members of the public, other agencies, DOE, and FERMCO observed. The Task Force played *FutureSite*, a learning exercise that allowed Task Force members to explore various future use scenarios. Task Force members played *FutureSite* at its May meeting, using a 10^{-6} risk level; the June game was played at the 10^{-6} level. *FutureSite* illustrates how volumes of contaminated soil that must be handled -- and at what cost -- to achieve alternative uses of the Fernald site. The objective is to determine a desired future use of the entire site and account for all of the contaminated material in either off-site or on-site disposal.

On June 14, 1994, DOE conducted a Community Meeting at the Plantation in Harrison, Ohio to discuss cleanup status at the site and receive input from stakeholders. An Availability Session prior to the meeting provided a time for the public to view exhibits, displays, and videos and talk with personnel from DOE-FN. After a presentation by DOE-FN representatives on the status of each Operable Unit and a summary of the waste shipment program, the group divided for the two break-out sessions. One session was on Strategic/Future Planning and the other was on Material Release. Information recorded during these sessions were transcribed and mailed June 17 to everyone who signed-in. Updates from U.S. EPA, Ohio EPA, the Fernald Citizens Task Force and Fernald Residents for Environmental Safety and Health (FRESH) were next on the agenda; this was followed by a question & answer session. Approximately 125 people attended the meeting.

The public comment period for the OU 4 Feasibility Study/Proposed Plan-Draft Environmental Impact Statement, which had been extended 60 days at stakeholder request, ended on June 19, 1994.

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Remedial Investigations/Feasibility Studies

6.0 Community Relations (continued)

DOE-FN representatives attended the monthly FRESH meeting on June 23, 1994. Approximately 25 residents attended. Randi Allen, DOE-FN OU 4 Branch Chief attended the meeting to answer questions on the upcoming construction of the OU 4 Vitrification Pilot Plant. At FRESH's invitation, FERMCO's newly appointed Executive Vice President Michael Yates attended the meeting. The following topics were included in the briefing given by DOE-FN:

- A brief summary of all public meetings conducted in June.
- An update on the South Plume pumping modifications.
- Discussed using controlled detonation cutting on Plant 7's key structural supporting columns as a viable method of taking down the building. Jack Craig from DOE-FN answered questions about this topic.

The *Operable Unit 5 Remedial Investigation (RI) Report* was submitted on schedule to U.S. EPA on June 24, 1994.

J. Phillip "Phil" Hamric has been assigned as Manager of the U.S. Department of Energy's Ohio Field Office, in Miamisburg, Ohio. He will assume his duties June 27, 1994. Mr. Hamric has been Manager at the Fernald Environmental Management Project (FEMP) since September, 1993.

On June 28, 1994, 35 people attended a workshop to gain a better understanding of the remedial alternatives being considered as cleanup remedies for OU 2. A presentation focused on data contained in the OU 2 Remedial Investigation Report, the Feasibility Study phase of the process and how it evaluates alternatives for cleanup and selects a preferred alternative, and the major part of the presentation discussed the changes that were made in revising the Proposed Plan. Most questions from the public centered on the cleanup alternative that would require an on-site disposal cell for OU 2's contaminated material that meets the acceptable waste criteria.

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Remedial Investigations/Feasibility Studies

6.0 Community Relations (continued)

On June 30, 1994 a meeting on the public water being provided to residents in Crosby Township was held at the Crosby Elementary School. Approximately 50-75 people attended the meeting sponsored by the Township to discuss the Public Water System. Representatives from Hamilton County, Department of Public Works, Hamilton County Commissioners office, DOE, and FERMCO were in attendance. Gary Van Hart of Hamilton County gave a brief overview of the proposed water system and then opened the meeting for questions. Most of the discussion centered on Hamilton County's decision to assess homeowners, not in the effected area, \$26 a foot to help pay for the system. Most residents at the meeting thought this was unfair. DOE was asked few questions regarding their fair share of the system. Questions that were posed to DOE were of the nature "if you contaminated the area, why aren't you paying for everything?" The answer is that DOE is paying 5.4 million to provide water to those residents impacted by the site. Many residents reiterated that they did not want the system if they were going to have to pay for it.

Issues/Corrective Action:

None.

Planned Activities for July 1994

- On July 12, 1994 DOE-FN will give a briefing to the Fernald Citizens Task Force waste disposition committee on the Federal Facility Compliance Act at Building Uno, 11003 Hamilton-Cleves Hwy, Ross, Ohio, beginning at 7 p.m.
- The U.S. Department of Energy's Future Use Project Office has scheduled a meeting in Cincinnati at the Hyatt Hotel for July 19-21, 1994. Representatives from DOE sites across the country will attend to discuss future use issues, including the work of the Fernald Citizens Task Force.
- The regular monthly FRESH meeting will be held July 28, 1994 at the Venice Presbyterian Church in Ross, Ohio beginning at 7:30 p.m.
- The Fernald Citizens Task Force has cancelled its regular monthly meetings for July and August. The next regular meeting will be September 10, 1994. At that meeting, Task Force members will evaluate the future use scenarios that resulted from the *FutureSite* exercise as a basis for developing their recommendation to DOE. That draft report is due in October, and it will be finalized in November 1994.

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ENCLOSURE A

**WASTE WATER FLOWS AND RADIONUCLIDE
CONCENTRATIONS UNDER CA SECTION XXIII.B**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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Introduction

The accompanying Effluent Radiation Reports provide, in accordance with the requirements of Section XXIII.B of the Consent Agreement As Amended under CERCLA Sections 120 and 106 (a), data on the daily waste water flows, radionuclide concentrations, and loadings released to the Great Miami River and an estimate of runoff and radionuclide concentrations to Paddy's Run during June 1994.

Summary - June 1994

The total quantity of uranium discharged from the FEMP to the Great Miami River via Manhole 175 (Outfall 11o00004001) was 5.53 kilograms. The average uranium concentration for the previous 12 months was 0.37 mg/L. This is 41.6 % of the Derived Concentration Guide (DOE Order 5400.5) for ingested water.

There was no discharge from the Storm Water Retention Basin Spillway (Outfall 11o00004002) to Paddy's Run via the Storm Sewer Outfall Ditch in June 1994. Based on 3.85 inches of rainfall in June 1994, the total quantity of uranium discharged to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 10.94 kilograms.

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
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Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: 11O00004001
001 Total Discharge
Manhole 175 (Effluent to Great Miami River)

DATE: JUNE 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)	Calculated Total U-238 (pCi/l) (1)
1	0.216	198	153	0.44	0.36	149
2	0.194	54	95	0.17	0.12	57
3	0.226	36	63	0.13	0.11	44
4	0.158	72	63	0.22	0.13	74
5	0.193	77	68	0.20	0.15	68
6	0.287	81	68	0.16	0.17	54
7	0.229	77	68	0.20	0.17	68
8	0.209	77	77	0.19	0.15	64
9	0.256	**	68	0.17	0.16	57
10	0.278	**	149	0.22	0.23	74
11	0.194	**	99	0.23	0.17	78
12	0.177	**	117	0.25	0.17	84
13	0.272	**	95	0.18	0.19	61
14	0.252	**	131	0.23	0.22	78
15	0.287	**	81	0.20	0.22	68
16	0.273	**	**	0.18	0.19	61
17	0.241	**	**	0.18	0.16	61
18	0.188	**	**	0.25	0.18	84
19	0.163	**	**	0.29	0.18	98
20	0.241	**	**	0.24	0.22	81
21	0.212	**	**	0.20	0.16	68
22	0.212	**	**	0.21	0.17	71
23	0.252	**	**	0.19	0.18	64
24	0.238	**	**	0.19	0.17	64
25	0.114	**	**	0.40	0.17	135
26	0.207	**	**	0.28	0.22	95
27	0.292	**	**	0.19	0.21	64
28	0.247	**	**	0.21	0.20	71
29	0.209	**	**	0.28	0.22	95
30	0.211	**	**	0.23	0.18	78
Total	6.728				5.53	

** Analytical results not yet available.

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Period Ending June 30, 1994

EFFLUENT RADIATION REPORT (cont.)

FACILITY: Fernald Environmental Management Project

LOCATION: 001 Total Discharge

DATE: JUNE 1994

	Flow (MGD)	Total Alpha (pCi/l)(2)	Total Beta (pCi/l)(2)	Total U (mg/l)(2)	Total U (kgs)	Calculated Total U-238 (pCi/l)(1)(2)
Avg.	0.224	21	48	0.22	0.18	73
Max.	0.292	198	153	0.44	0.36	149
Min.	0.114	36	63	0.13	0.11	44

The average uranium concentration for the previous twelve months was 0.37 mg/l. This is 41.6 percent of the Derived Concentration Guide(DOE Order 5400.5) for ingested water.

Comments: (1) The activity of this discharge has been and will continue to be reported as Uranium-238 (pCi/l) in accordance with the Ohio EPA format for reporting uranium. Since this does not account for the activity of the other uranium isotopes in the effluent, the total uranium data is also presented. The calculated total U-238 is based on a conversion factor of 337.84 pCi U-238/mg Total U applied to the measured value of total uranium.

(2) Average values presented are flow-weighted.

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EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: 11000004002
002 Discharge (Overflow) to Storm Sewer Outfall Ditch
Stormwater Retention Basin Spillway (Effluent to Paddy's Run)

DATE: JUNE 1994

There was no discharge to Paddy's Run from the Stormwater Retention Basin.

Based on 3.85 inches of rainfall for the month, the uranium discharge to Paddy's Run from uncontrolled areas of the FEMP is estimated to be 10.94 kgs.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE
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ENCLOSURE B

**FFCA: INITIAL REMEDIAL MEASURES
AND OTHER OPEN ACTIONS**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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INTRODUCTION

Enclosure B describes actions undertaken at the FEMP during the period June 1, through June 30, 1994, that are not covered by the reporting requirements of the Consent Agreement As Amended under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sections 120 and 106(a).

WORK ASSIGNMENTS AND PROGRESS

Descriptions of ongoing work progress are presented in the following sections of this report. The status of ongoing work in support of the Federal Facility Compliance Agreement (FFCA) is summarized in Table 1 of Enclosure B. Completed work previously reported upon has been eliminated for the sake of brevity. In this portion of the report and in Table 1, descriptions of actions are presented in a format consistent with that of the FFCA.

**COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND
LIABILITY ACT (CERCLA)**

1. Initial Remedial Measures

Section C

K-65 Silo Project - Status information on the K-65 Silo project normally reported in this section is being provided under Operable Unit 4: Silos 1-4.

2. Remedial Investigation/Feasibility Study (RI/FS)

Status information on the Remedial Investigation/Feasibility Study (RI/FS) normally reported in this section is being provided separately in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).

3. Reports and Record Keeping

Section B

The RI/FS Monthly Technical Progress Report for May 1994 was transmitted to the U.S. EPA on June 20, 1994, as an integral part of the Consolidated Consent Agreement/Federal Facility Compliance Agreement/Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (CA/FFCA/FFA-CARE) Monthly Progress Report in accordance with the requirements of Section X of the Consent Agreement As Amended.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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CLEAN AIR ACT (CAA)

Section E

The Quarterly Particulate Emissions Report will now be incorporated into the Annual NESHAP Compliance Report.

RADIATION DISCHARGE INFORMATION

Section A

This information will now be submitted on an annual basis as part of the FEMP Site Environmental Report.

REPORTING REQUIREMENTS

Section B

The Federal Facility Compliance Agreement Monthly Progress Report for April 1994, was transmitted to the U.S. EPA on June 20, 1994, as Enclosure B of the Consolidated Consent Agreement/Federal Facility Compliance Agreement/Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (CA/FFCA/FFA-CARE) Monthly Progress Report.

TABLE 1

**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS**

JUNE 30, 1994

<u>ACTION</u>	<u>DESCRIPTION</u>	<u>COMPLETION TIME AFTER FFCA SIGNED</u>	<u>FY1994 STATUS</u>
CERCLA			
1.	INITIAL REMEDIAL MEASURES		
1.C	Implement radon control plan approved by the U.S. EPA.	----	No longer applicable. Progress on actions to address radon emissions from the K-65 Silos are being reported separately under Section IX-Removal Actions of the Consent Agreement/FFCA Monthly Progress Report.
2.	REMEDIAL INVESTIGATION/FEASIBILITY STUDY		No action required.
2.A	RI/FS work is to be conducted in accordance with the U.S. EPA guidelines.	N/A	
2.B	--No Action Required--	----	Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.E	Amend and submit revised RI/FS Work Plan to U.S. EPA if deficiencies are found.		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA Sections 120 and 106(a).
2.F	Implement tasks described in the approved RI/FS Work Plan		Status information on the RI/FS is being reported in accordance with the requirements of Section X of the Consent Agreement As Amended under CERCLA sections 120 and 106(a).
3.	REPORTS AND RECORD KEEPING		
3.B	Submit monthly RI/FS progress reports.	monthly	The RI/FS Monthly Progress Report for April 1994 was transmitted to the U.S. EPA on June 20, 1994.

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TABLE 1

STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS

JUNE 30, 1994

CLEAN AIR ACT

B.4	Prepare annual progress report installation and replacement of emission control devices.	yearly	The Sixth Annual Progress Report on the installation and replacement of emission control devices is being prepared by the Effluent Monitoring and Control Section of the ES&H Division. The report will be transmitted to DOE by July 31, 1994.
C.	Provide annual reports to the U.S. EPA per 40 CFR 61.94(c).	yearly	The Annual NESHAP Compliance Report for CY1992 was transmitted to the U.S. EPA on June 28, 1993 (DOE-2281-93).
D.1	Provide U.S. EPA with yearly stack-testing schedule.	yearly	<p>No stacks related to production were operating in 1993.</p> <p>Periodic confirmatory measurements to demonstrate compliance with NESHAP Subpart H were conducted on three laboratory exhaust stacks. These tests were conducted in accordance with a program to verify low emissions from stacks without continuous in-stack monitoring.</p> <p>Due to the permanent shutdown of metals production, resumption of the FFCA Stack Testing Program is unlikely. A proposal is being developed to substitute the NESHAP Subpart H testing/monitoring program for the FFCA Stack Testing. When this proposal is completed it will be formally submitted to U.S. EPA.</p>
D.2	Provide U.S. EPA with stack-test results for stacks tested that year.	45 days	No stacks related to production were operated or tested in 1993.
E.1	Maintain records of monthly particulate matter emissions.	-----	Ongoing.

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**STATUS OF ASSIGNMENTS FOR WORK REQUIRED ON
FEDERAL FACILITY COMPLIANCE AGREEMENT ACTIONS****JUNE 30, 1994****RCRA**

A.1	Conduct a hazardous waste determination on all waste streams.	30 days	Complete. Pursuant to the Proposed Amended Consent Decree, a RCRA waste evaluation was conducted on all identified waste streams pertaining to the PACD.
A.2	Commence a hazardous waste analysis program for materials in the landfill and going to the incinerator.	30 days	Complete. Operation of these units was discontinued and data on the waste which had gone to them was provided in a 30-day FFCA deliverable on August 17, 1986.
A.5	Update the facility closure plan to reflect the year the facility expects to begin closure.	30 days	The Facility closure date is dependent upon closure schedules for individual TSD units as presented most recently in Section I of the RCRA Part B Permit Application transmitted to the Ohio EPA and the U.S. EPA on March 26, 1993 (DOE-1471-93). Facility closure will be completed on a date the last TSD unit is closed.

REPORTING REQUIREMENTS

B.	Issue monthly progress report of actions taken to ensure compliance with FFCA requirements.	monthly	May's FFCA Monthly Progress Report was transmitted to the U.S. EPA on June 20, 1994.
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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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ENCLOSURE C

**FEDERAL FACILITY AGREEMENT:
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS**

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
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Period Ending June 30, 1994

Introduction

The Federal Facility Agreement for Control and Abatement of Radon-222 Emissions (FFA-CARE) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (U.S. EPA), signed November 19, 1991, requires that a monthly report be submitted to the U.S. EPA regarding all steps undertaken in the preceding month to implement Part V of the agreement and that all data generated as a result of those actions be submitted.

Enclosure C fulfills those requirements by describing steps taken at the FEMP during the period June 1, through June 30, 1994, to implement Part V, Radon-222 Control and Abatement Plan, paragraphs 19-33 of the FFA-CARE.

Work Assignments and Progress

In this section of Enclosure C, action descriptions and work progress are presented in a format consistent with that of the FFA-CARE. Immediately following this section are the K-65 Silos Report and the Selected Radon Data Report. Reporting this data is also a requirement included in the U.S. EPA approved Silos 1 and 2 Removal Action Work Plan (Removal Action No. 4).

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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Period Ending June 30, 1984

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 19 & 21	Implement the K-65 Silos 1 and 2 Removal Action in accordance with the approved Silos 1 and 2 Removal Action Work Plan.	12/1/91	Completed. Installation of the bentonite completed 11/28/91.
Part V, 20	Reduce radon-222 to a level As-Low-As Reasonably-Achievable (ALARA) with the goal as specified in the Silos 1 and 2 Removal Action Work Plan.	5/22/92	Completed. Concentrations off-site remain well below performance goal of removal action.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
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Period Ending June 30, 1994

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 22	Submit proposed methodology for estimating radon-222 concentration reductions resulting from completion of the Silos 1 and 2 Removal Action.	Within 60 days of completing removal action; 1/27/92.	The Bentonite Effectiveness Environmental Monitoring Plan was resubmitted to the U.S. EPA for comment and approval on 3/13/92. EPA approval was received on 4/24/92. DOE prepared a revision to the methodology. Comment responses to the U.S. EPA's disapproval of the revised methodology or reference to the Bentonite Effectiveness Environmental Monitoring Plan were not included in the Final Report. DOE used the approved ISCLT method to demonstrate compliance. The draft Final Report for the Silos 1 and 2 Removal Action was submitted 3/25/94 for internal DOE-FN review and comment. Comments were received on 4/21/94 and a comment resolution meeting was conducted on 4/28/94. The final report was submitted to U.S. EPA on May 17, 1994. There were no comments received from the U.S. EPA or the Ohio EPA. Commitment is completed.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

FFA Part, Paragraph(s)	Description of Commitment	FFA Due Date	Status of Commitment
Part V, 23	Evaluate performance of the removal action and determine whether or not additional actions are needed prior to final remediation.	None specified.	Methodology for estimating radon-222 concentration reduction submitted to U.S. EPA per paragraph 20 of Part V. The final report was issued to the U.S. EPA on May 17, 1994. The performance of the removal action was a success; no further action is required. Action completed.
Part V, 24, 25, and 33	Demonstrate compliance with NESHAP Subpart Q at the completion of final remediation using a methodology approved by the U.S. EPA. Applicable to: Silos 1, 2, and 3; Waste Pits 1, 2, 3, 4, and 5 and the Clearwell; and any newly discovered radon-222 emission sources.	None specified.	No information to report for June 1994.
Part V, 26	Directly measure radon-222 flux from Waste Pits 1, 2, 3, 4, and 5 and the Clearwell in the RI/FS under the CERCLA Consent Agreement.	None specified.	Radon sampling is complete for Pits 1, 2, and 3. All measurements were below the criteria set by the U.S. EPA. A final report was issued to the U.S. EPA on 6/25/92. A letter was received from the U.S. EPA on 10/16/92 giving approval of the proposed method for measuring the radon flux from Pit 4. The letter also stated that since the Clearwell is water covered, and Pit 5 is nearly 100% water covered, the flux from Pit 5 and the Clearwell may be assumed to be zero.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 26	Include direct measurement data from Waste Pits 1, 2, 3, 4, and 5 and the Clearwell in the RI/FS under the CERCLA Consent Agreement.	None specified.	See above.
Part V, 27	Estimate radon-222 emissions from Silo 3 based upon characterization data; include the estimated radon-222 emission data from Silo 3 in the RI/FS that includes Silo 3 under the CERCLA Consent Agreement.	None specified.	Completed. An estimate of radon flux from the K-65 Silo 3 was submitted to the U.S. EPA on 12/17/91. Radon flux for the silo was estimated to be above 20 pCi/m ² -s.
Part V, 28	Submit documentation or estimates of current radon-222 emissions from existing but newly discovered sources that contain radium-226 in sufficient concentrations to emit radon-222 in excess of NESHAP Subpart Q prior to final remediation.	Within 30 days of discovery.	No new sources identified.
Part V, 30	Submit methodology for direct measurement or other appropriate means of characterization of the relevant emissions pursuant to paragraph 29 of the FFA.	Within 45 days of the U.S. EPA response pursuant to paragraph 29.	None required.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

<u>FFA Part, Paragraph(s)</u>	<u>Description of Commitment</u>	<u>FFA Due Date</u>	<u>Status of Commitment</u>
Part V, 31	Submit results of measurements pursuant to paragraph 30.	Within 30 days of U.S. EPA approval of characterization method.	None required.
Part VI, 31	Submit monthly report on steps undertaken to implement Part V of the FFA-CARE and the data obtained in the preceding month.	20th day of succeeding month.	The progress report being submitted herewith as an integral part of the CERCLA Consent Agreement Monthly Progress Report.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

Data Reporting Requirements: RA No. 4: Silos 1 and 2

As defined in the Silos 1 and 2 Removal Action Work Plan and the Federal Facility Agreement, data associated with monitoring the effectiveness of the bentonite installation are included in the following tables: the K-65 Silos Report and the Selected Radon Data Report.

The K-65 Silos Report includes data on the following parameters:

- Ambient temperature and pressure near the silos.
- Silos 1 and 2 headspace temperature.
- Silos 1 and 2 differential pressure.
- Silos 1 and 2 radon headspace concentration.
- Silos 1 and 2 headspace humidity

The Selected Radon Data Report includes radon data from the following locations:

- Air monitoring station number 5 (AMS-5)
- Air monitoring station number 6 (AMS-6)
- Pilot Plant
- Background data
- K-65 Monitoring Data (K-65 NW, K-65 SW, K-65 NE, K-65 SE).

The radon data submitted in Enclosure C: Due to its high source strength, unique measurement methods had to be devised to measure radon emissions from this nonstandard source. The data that has been gathered since 1992 is collected by qualified technicians using detailed procedures. This data although not yet verified, serves as a very good qualitative indicator of the integrity of the bentonite sealant layer covering the residues in the silos. Activities have been initiated to enhance the quality and independently verify the data that is being collected.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

**K-65 SILO REPORT
RADON CONCENTRATIONS**

MONTH: JUNE 1994

REPORT GENERATED: 07/06/94

**Daily Summary of Recorded Headspace Concentrations
(recorded at 5 minute intervals)**

Date	SILO 1				SILO 2			
	Average	Maximum	Minimum	Std. Dev.	Average	Maximum	Minimum	Std. Dev.
06/01/94	355,000	953,000	71,000	244,000	2,722,000	2,847,000	2,352,000	79,000
06/02/94	349,000	960,000	46,000	247,000	2,724,000	2,880,000	2,335,000	92,000
06/03/94	433,000	1,013,000	29,000	296,000	2,826,000	2,945,000	2,467,000	73,000
06/04/94	621,000	1,066,000	61,000	337,000	2,907,000	3,026,000	2,696,000	61,000
06/05/94	723,000	1,172,000	119,000	336,000	2,947,000	3,078,000	2,764,000	74,000
06/06/94	691,000	1,141,000	27,000	264,000	2,884,000	3,111,000	1,543,000	218,000
06/07/94	742,000	1,174,000	137,000	306,000	3,026,000	3,144,000	2,781,000	66,000
06/08/94	197,000	1,100,000	11,000	287,000	2,569,000	3,160,000	1,840,000	346,000
06/09/94	338,000	1,036,000	17,000	324,000	2,836,000	3,127,000	2,137,000	219,000
06/10/94	686,000	1,170,000	129,000	292,000	3,040,000	3,180,000	2,814,000	63,000
06/11/94	603,000	1,064,000	109,000	255,000	3,036,000	3,210,000	2,451,000	126,000
06/12/94	554,000	1,013,000	86,000	262,000	3,044,000	3,259,000	1,675,000	223,000
06/13/94	565,000	1,049,000	112,000	239,000	2,945,000	3,276,000	2,302,000	249,000
06/14/94	698,000	1,079,000	79,000	297,000	3,091,000	3,309,000	2,814,000	106,000
06/15/94	697,000	1,078,000	43,000	329,000	3,169,000	3,309,000	3,012,000	78,000
06/16/94	702,000	1,061,000	124,000	273,000	3,234,000	3,358,000	2,847,000	66,000
06/17/94	703,000	1,122,000	157,000	247,000	3,266,000	3,457,000	2,550,000	108,000
06/18/94	754,000	1,124,000	176,000	270,000	3,370,000	5,404,000	2,530,000	163,000
06/19/94	755,000	1,183,000	67,000	264,000	3,424,000	3,556,000	3,061,000	60,000
06/20/94	763,000	1,183,000	177,000	295,000	3,473,000	6,229,000	2,071,000	262,000
06/21/94	748,000	1,183,000	214,000	307,000	3,522,000	3,688,000	2,731,000	130,000
06/22/94	816,000	1,182,000	123,000	333,000	3,603,000	4,926,000	3,441,000	101,000
06/23/94	852,000	1,183,000	306,000	242,000	3,642,000	4,068,000	2,814,000	131,000
06/24/94	492,000	1,184,000	34,000	371,000	3,350,000	4,959,000	2,197,000	357,000
06/25/94	168,000	919,000	11,000	207,000	3,074,000	3,688,000	2,269,000	311,000
06/26/94	717,000	1,183,000	206,000	267,000	3,627,000	4,578,000	2,968,000	143,000
06/27/94	339,000	1,169,000	20,000	240,000	3,662,000	5,025,000	3,424,000	106,000
06/28/94	686,000	1,182,000	212,000	231,000	3,619,000	5,767,000	3,210,000	178,000
06/29/94	346,000	947,000	56,000	211,000	3,341,000	3,705,000	2,919,000	314,000
06/30/94	313,000	1,134,000	13,000	229,000	3,491,000	3,872,000	3,111,000	78,000

Grab Samples of Headspace

Date	SILO 1	SILO 2
	Concentration	Concentration
06/01/94	336,000	3,792,000
06/06/94	1,658,000	4,418,000
06/09/94	46,000	3,756,000
06/16/94	1,558,000	4,356,000
06/20/94	1,705,000	4,477,000
06/23/94	1,617,000	4,623,000
06/27/94	51,000	4,156,000
06/30/94	84,000	4,565,000

Notes: 1. All values reported to the nearest thousand pCi/L to remain consistent with the precision of the calibration source.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITIES COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

MONTH: JUNE
YEAR: 94

FACILITY: Fernald Environmental Management Report
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

SELECTED RADON DATA REPORT

(Monthly Summary of Selected Sampling Locations)

Daily Averages:	AMS-6 (pCi/L)	AMS-6 (pCi/L)	PILOT PLANT (pCi/L)	SKGD (pCi/L)
06/01/94	0.6	0.5	0.5 (b)	1.4
06/02/94	0.5	0.5	0.6	1.4
06/03/94	1.1	1.0	1.0	1.8
06/04/94	1.3	1.1	1.2	1.8
06/05/94	1.3	1.1	1.1	1.9
06/06/94	0.9	0.8	0.8	1.5
06/07/94	1.0	0.7	0.8	1.5
06/08/94	0.6	0.6	0.6	1.5
06/09/94	0.5	0.5	0.6	1.5
06/10/94	1.2	0.9	1.0	1.7
06/11/94	0.7	0.6	0.6	1.5
06/12/94	1.1	1.0	0.9	1.7
06/13/94	0.6	0.6	0.6	1.4
06/14/94	0.8	0.6	0.6	1.3
06/15/94	1.2 (a)	0.9	0.9	1.5
06/16/94	1.3	0.9	1.0	1.6
06/17/94	2.2	0.9	0.9	1.7
06/18/94	1.3	1.0	1.0	1.8
06/19/94	1.6	1.2	1.1	1.9
06/20/94	1.4	1.1	1.1	1.8
06/21/94	0.9	0.6	0.6	1.6
06/22/94	1.0	0.6	0.9	0.4 (b)
06/23/94	1.1	1.1	1.1	(b)
06/24/94	0.4	0.5	0.6	(b)
06/25/94	0.4	0.4	0.6	(b)
06/26/94	0.6	0.7	0.6	(b)
06/27/94	0.6	0.5	0.6	(b)
06/28/94	0.9	0.6	0.6	(b)
06/29/94	0.9	0.5	0.6	0.2 (b)
06/30/94	0.6	0.5	0.6	0.5

Monthly Averages:	AMS-6 (pCi/L)	AMS-6 (pCi/L)	PILOT PLANT (pCi/L)	SKGD (pCi/L)
AVERAGE:	0.9	0.8	0.8	1.5
MAXIMUM:	2.2	1.2	1.2	1.9
MINIMUM:	0.4	0.4	0.5	0.2
MEDIAN:	0.9	0.6	0.6	1.5
STD. DEV:	0.4	0.2	0.2	0.4

STANDARD LEGEND:

1. "(a)" Indicates censored data due to erroneous readings.
2. "(b)" Indicates data loss due to monitor malfunction.
3. "(c)" Indicates operator error in programming monitor.
4. "(d)" Indicates data loss due to relocation of monitor.

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**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITIES COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

MONTH: JUNE
YEAR: 94

FACILITY: Fernald Environmental Management Report
U.S. Department of Energy
7400 Wiley Road, P.O. Box 308704
Cincinnati, Ohio 45238 Hamilton

SELECTED RADON DATA REPORT
(Monthly Summary of Selected Sampling Locations)

Daily Averages:	K-65, NW (pCi/L)	K-65, SW (pCi/L)	K-65, NE (pCi/L)	K-65, SE (pCi/L)
06/01/94	0.9	0.7	1.2	1.1
06/02/94	0.8	0.7	1.0	0.7
06/03/94	2.3	2.1	4.3	2.8
06/04/94	2.2	1.9	5.1	3.2
06/05/94	2.2	1.8	6.1	2.9
06/06/94	1.8	1.6	4.1	2.4
06/07/94	1.6	1.5	2.8	2.1
06/08/94	1.5	1.4	2.1	1.0
06/09/94	0.9	1.5	1.4	0.8
06/10/94	1.9	1.9	3.7	2.0
06/11/94	1.2	1.1	3.4	1.3
06/12/94	1.8	1.4	4.5	2.2
06/13/94	0.9	0.8	1.6	1.3
06/14/94	1.0	0.9	2.2	0.9
06/15/94	1.5	1.3	3.1	1.4
06/16/94	1.6	1.4	1.5	1.6
06/17/94	1.6	1.4	1.2	1.7
06/18/94	1.7	1.6	1.7	2.1
06/19/94	2.1	1.8	1.6	1.7
06/20/94	1.9	2.0	1.3	1.9
06/21/94	1.4	1.3	1.5	2.1
06/22/94	1.6	1.4	1.3	2.1
06/23/94	1.7	1.7	1.6 (b)	3.1
06/24/94	0.7	0.7	(b)	0.6
06/25/94	0.8	0.5	(b)	0.7
06/26/94	1.9	1.5	(b)	2.1
06/27/94	0.7	0.6 (a)	0.4 (b)	0.7 (b)
06/28/94	1.4	1.2	2.6	1.8
06/29/94	0.8	0.7	1.0	0.6
06/30/94	0.8	0.8	0.7	0.9

Monthly Averages:	K-65, NW (pCi/L)	K-65, SW (pCi/L)	K-65, NE (pCi/L)	K-65, SE (pCi/L)
AVERAGE:	1.4	1.3	2.3	1.7
MAXIMUM:	2.3	2.1	6.1	3.2
MINIMUM:	0.7	0.5	0.4	0.6
MEDIAN:	1.5	1.4	1.6	1.7
STD. DEV.:	0.6	0.4	1.4	0.7

STANDARD LEGEND:

1. "(a)" Indicates censored data due to erroneous readings.
2. "(b)" Indicates data loss due to monitor malfunction.
3. "(c)" Indicates operator error in programming monitor.
4. "(d)" Indicates data loss due to relocation of monitor.

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT**

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

K-65 SILO REPORT

LOCATION: Silo # 1

DATE: June 1994

Day	Ambient Temp °F	Press In. Hg.	Temperature Head Space °F	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
1	72.8	29.43	58.8	*	0.003	355,021
2	59.7	29.54	58.9	*	0.001	349,444
3	59.8	29.58	58.2	*	0.002	433,228
4	64.3	29.50	58.5	*	0.003	620,878
5	69.5	29.43	57.1	*	0.004	722,722
** 6	71.9	29.30	57.9	*	0.020	690,877
** 7	70.6	29.26	58.3	*	0.043	741,969
8	61.4	29.37	58.3	*	0.001	197,023
9	64.4	29.45	58.0	*	0.002	337,587
** 10	70.4	29.44	58.5	*	0.004	685,752
11	70.7	29.42	59.2	*	-0.013	603,377
12	68.7	29.44	59.4	*	0.017	553,900
** 13	77.0	29.42	59.7	*	0.010	584,600
14	79.3	29.49	60.5	*	0.008	697,852
15	81.1	29.81	61.4	*	0.008	697,105
16	78.0	29.64	62.1	*	0.008	702,020
17	77.6	29.56	62.3	*	0.005	702,645
18	79.1	29.53	62.7	*	0.008	754,297
19	80.7	29.53	63.3	*	0.008	754,535
20	78.5	29.48	63.8	*	0.008	783,229
21	76.6	29.38	64.0	*	0.005	747,794
22	77.6	29.35	64.1	*	0.008	818,357
23	75.5	29.21	64.3	*	0.005	852,315
** 24	70.0	28.97	64.2	*	0.000	491,511
25	68.0	29.20	63.5	*	0.002	168,124
** 26	63.5	29.19	63.2	*	-0.030	716,552
** 27	68.6	29.28	62.7	*	0.010	338,687
28	70.6	29.31	62.7	*	0.004	685,570
29	72.3	29.22	63.3	*	0.004	345,855
30	69.3	29.37	63.3	*	0.003	313,351
ARITHMETIC MEAN	71.4	29.40	60.8	0.0	0.005	580,139
MAXIMUM	81.1	29.64	64.3	0.0	0.043	852,315
MINIMUM	59.7	28.97	58.2	0.0	-0.030	168,124
MEDIAN	70.6	29.42	61.7	0.0	0.004	685,661

Note: * - Silo #1 Relative Humidity was inoperable, default value = 0.

** - Some Delta Pressure values were outside of range restrictions.

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CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY COMPLIANCE AGREEMENT/
FEDERAL FACILITY AGREEMENT MONTHLY PROGRESS REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398704
Cincinnati, Ohio 45239 Hamilton

K-65 SILO REPORT

LOCATION: Silo # 2

DATE: June 1994

Day	Ambient Temp °F	Press In. Hg.	Temperature Head Space °F	Inter. Hum. %	Diff. Press In. HG	Head Space Radon (pCi/l)
1	72.8	29.43	58.0	85.7	-0.011	2,721,743
2	59.7	29.54	58.1	85.9	-0.011	2,723,738
3	59.8	29.58	55.4	85.5	-0.011	2,825,970
4	64.3	29.50	55.7	85.5	-0.011	2,907,198
5	69.5	29.43	58.2	85.4	-0.011	2,946,952
6	71.9	29.30	57.0	85.1	0.012	2,884,089
7	70.6	29.26	57.4	85.0	0.017	3,025,508
8	61.4	29.37	57.4	85.0	-0.012	2,569,015
9	64.4	29.45	57.1	85.0	-0.011	2,836,310
** 10	70.4	29.44	57.5	85.0	-0.011	3,039,546
11	70.7	29.42	58.2	85.0	-0.021	3,035,994
12	66.7	29.44	58.4	84.9	0.010	3,044,245
** 13	77.0	29.42	58.7	84.7	0.004	2,944,775
14	79.3	29.49	59.4	84.4	-0.012	3,091,171
15	81.1	29.61	60.2	84.3	-0.012	3,168,524
16	78.0	29.64	60.8	84.0	-0.012	3,234,040
17	77.6	29.58	61.1	84.0	-0.013	3,287,516
18	79.1	29.53	61.4	84.0	-0.014	3,370,270
19	80.7	29.53	62.0	84.0	-0.014	3,423,787
20	78.5	29.48	62.5	84.0	-0.014	3,473,351
21	76.6	29.38	62.7	84.0	-0.014	3,522,180
22	77.6	29.35	62.8	83.9	-0.014	3,603,186
** 23	75.5	29.21	62.9	83.9	-0.014	3,642,149
** 24	70.0	28.97	62.8	83.9	-0.018	3,349,643
25	68.0	29.20	62.3	83.2	-0.014	3,073,638
26	63.5	29.19	62.0	82.9	-0.053	3,627,481
** 27	66.6	29.28	61.5	82.6	-0.018	3,661,803
28	70.6	29.31	61.5	82.8	-0.013	3,619,459
29	72.3	29.22	62.0	82.9	-0.014	3,341,392
30	69.3	29.37	62.1	82.5	-0.013	3,491,226
ARITHMETIC MEAN	71.4	29.40	59.7	84.3	-0.011	3,182,863
MAXIMUM	81.1	29.64	62.9	85.9	0.017	3,661,803
MINIMUM	59.7	28.97	55.4	82.5	-0.053	2,569,015
MEDIAN	70.6	29.42	60.5	84.2	-0.012	3,129,847

Note: ** - Some Delta Pressure values were outside of range restrictions

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

PERIOD ENDING JUNE 30, 1994

ENCLOSURE D

EFFLUENT RADIATION DISCHARGES TO THE GREAT MIAMI RIVER

**CONSOLIDATED CONSENT AGREEMENT/FEDERAL FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

PERIOD ENDING JUNE 30, 1994

Introduction

Enclosure D lists monthly discharges to the Great Miami River. This information is required by the DOE/U.S. EPA Agreement Resolving Dispute Concerning Denial of Request for Extension of Time to Submit Operable Unit 2 Document and discussed in the "Addendum No. 1 to the South Groundwater Contamination Plume Removal Action Parts 2 and 3 Work Plan."

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP1]
IAWWT - T108 (SWRB) Discharge
Interim Advanced Wastewater Treatment Effluent

DATE: MAY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.194	0.0	0	1.0	0.0007	2	7.9	8.1
2	0.200	1.8	2	1.0	0.0008	1	8.0	8.1
3	0.208	0.9	4	1.0	0.0008	1	8.1	8.2
4	0.185	0.9	4	0.3	0.0002	1	8.1	8.3
5	0.182	0.9	5	0.4	0.0003	1	8.2	8.4
6	0.168	0.5	4	1.0	0.0006	1	7.9	8.2
7	0.131	0.5	2	1.0	0.0005	1	7.9	8.1
8	0.198	0.5	3	1.0	0.0007	1	8.0	8.1
9	0.182	0.5	2	1.0	0.0006	1	7.9	8.2
10	0.208	0.5	3	0.4	0.0003	1	8.2	8.4
11	0.191	0.0	0	0.4	0.0003	1	8.4	8.5
12	0.183	0.0	0	1.0	0.0007	1	8.4	8.5
13	0.167	0.0	0	1.0	0.0006	1	8.3	8.5
14	0.059	0.0	0	1.0	0.0002	1	8.2	8.4
15	0.000							
16	0.090	0.0	0	1.0	0.0003	1	8.4	8.5
17	0.180	0.0	0	1.0	0.0007	1	8.2	8.4
18	0.153	0.0	0	1.0	0.0006	1	8.4	8.6
19	0.106	0.0	0	1.0	0.0004	1	8.4	8.6
20	0.099	0.0	0	1.0	0.0004	1	8.6	8.7
21	0.074	0.0	0	1.0	0.0003	1	8.6	8.8
22	0.000							
23	0.000							
24	0.091	0.0	0	1.0	0.0003	1	8.7	8.9
25	0.147	0.0	0	1.0	0.0006	2	8.9	9.1
26	0.081	0.0	0	1.0	0.0003	1	8.7	8.9
27	0.000							
28	0.052	0.0	0	1.0	0.0002	1	8.9	9.0
29	0.089	0.0	0	1.0	0.0003	2	9.0	9.2
30	0.122	0.0	0	1.3	0.0006	2	9.1	9.4
31	0.135	0.0	0	1.0	0.0005	1	9.2	9.5
Total	3.851				0.0129			

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O. Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP1]
IAWWT - T109 (SWRB) Discharge
Interim Advanced Wastewater Treatment Effluent

DATE: MAY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (MIN) (S.U.)	pH (MAX) (S.U.)
1	0.159	0.0	0	1.0	0.0006	2	7.9	8.1
2	0.178	1.4	3	1.0	0.0007	1	8.0	8.1
3	0.189	0.9	4	1.0	0.0007	1	8.1	8.2
4	0.193	0.9	45	0.8	0.0006	1	8.1	8.3
5	0.206	0.9	3	0.8	0.0006	1	8.2	8.4
6	0.189	1.4	4	1.0	0.0007	1	7.9	8.2
7	0.140	0.9	3	1.0	0.0005	1	7.9	8.1
8	0.179	1.4	3	1.6	0.0011	1	8.0	8.1
9	0.150	1.8	4	1.0	0.0006	1	7.9	8.2
10	0.214	1.8	4	4.1	0.0033	1	8.2	8.4
11	0.182	0.0	0	2.9	0.0020	1	8.4	8.5
12	0.166	0.0	0	1.8	0.0011	1	8.4	8.5
13	0.164	0.0	0	2.4	0.0015	1	8.3	8.5
14	0.081	0.0	0	2.7	0.0008	1	8.2	8.4
15	0.000							
16	0.100	0.0	0	2.3	0.0009	1	8.4	8.5
17	0.198	0.0	0	2.1	0.0016	1	8.2	8.4
18	0.209	0.0	0	2.0	0.0016	1	8.4	8.6
19	0.178	0.0	0	2.0	0.0013	1	8.4	8.6
20	0.198	0.0	0	2.5	0.0019	1	8.6	8.7
21	0.127	0.0	0	1.6	0.0008	1	8.6	8.8
22	0.000							
23	0.000							
24	0.120	0.0	0	2.1	0.0010	1	8.7	8.9
25	0.199	0.0	0	1.7	0.0013	1	8.9	9.1
26	0.168	0.0	0	1.6	0.0010	1	8.7	8.9
27	0.114	0.0	0	1.3	0.0006	1	8.7	8.9
28	0.046	0.0	0	1.1	0.0002	1	8.9	9.0
29	0.000							
30	0.000							
31	0.000							

Total 4.047

0.0269

*** Analytical results not yet available.

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [606]
SWRB Pump Station Discharge
Stormwater Retention Basin Effluent

DATE: MAY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)
1	1.840	0	0	0.00	0.00
2	1.240	266	90	0.35	1.64
3	0.395	221	72	0.32	0.48
4	0.378	252	95	0.42	0.60
5	0.388	315	72	0.47	0.69
6	0.357	297	126	0.46	0.62
7	1.077	248	86	0.40	1.63
8	1.309	252	86	0.38	1.88
9	1.216	261	72	0.43	1.98
10	0.483	261	104	0.48	0.88
11	0.373	0	0	0.00	0.00
12	0.354	0	0	0.00	0.00
13	0.331	0	0	0.00	0.00
14	0.140	0	0	0.00	0.00
15	0.214	0	0	0.00	0.00
16	0.190	0	0	0.00	0.00
17	0.378	311	54	0.44	0.63
18	0.362	306	68	0.48	0.66
19	0.284	216	54	0.46	0.49
20	0.297	261	54	0.46	0.52
21	0.201	221	54	0.46	0.35
22	0.000				
23	0.000				
24	0.211	329	72	0.48	0.38
25	0.346	293	63	0.46	0.60
26	0.249	311	158	0.44	0.41
27	0.114	0	0	0.00	0.00
28	0.098	0	0	0.00	0.00
29	0.089	0	0	0.00	0.00
30	0.122	0	0	0.00	0.00
31	0.142	0	0	0.00	0.00
	13.178				14.45

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [605]
Biodenitrification Tower
BDN Tower Effluent

DATE: MAY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (mg/l)	Total U (kgs)
1	0.121	0	0	0.0	0.00
2	0.122	1892	1171	3.7	1.71
3	0.131	1622	1441	3.0	1.49
4	0.129	1396	1216	2.8	1.37
5	0.127	1261	1081	2.3	1.10
6	0.130	1036	1126	2.2	1.08
7	0.119	901	766	1.7	0.77
8	0.131	495	586	1.0	0.50
9	0.133	495	631	1.2	0.60
10	0.131	541	586	1.2	0.59
11	0.131	0	0	0.0	0.00
12	0.128	0	0	0.0	0.00
13	0.135	0	0	0.0	0.00
14	0.128	0	0	0.0	0.00
15	0.133	0	0	0.0	0.00
16	0.132	0	0	0.0	0.00
17	0.132	212	194	0.4	0.21
18	0.136	113	230	0.3	0.17
19	0.125	9	72	0.0	0.00
20	0.117	396	162	0.1	0.05
21	0.104	41	77	0.2	0.07
22	0.120	0	0	0.0	0.00
23	0.115	333	279	0.6	0.27
24	0.114	0	0	0.8	0.35
25	0.120	766	676	1.6	0.73
26	0.115	495	329	1.1	0.48
27	0.114	0	0	0.0	0.00
28	0.101	0	0	0.0	0.00
29	0.125	0	0	0.0	0.00
30	0.101	0	0	0.0	0.00
31	0.111	0	0	0.0	0.00
Total	3.811				11.55

* Analytical results not yet available.

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

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Period Ending June 30, 1994

EFFLUENT REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [605]
Biodegradation Tower
BDN Tower Effluent

DATE: MAY 1994

Day	C-BOD5 (mg/l)	TSS (mg/l)	NH3-N (mg/l)	NO3-N (mg/l)	Chromium (ug/l)	Copper (ug/l)	Nickel (ug/l)	Hex-Chrom (ug/l)
1								
2								
3	4.35							
4		14	0.10	1.8	7.2	14.0	17.0	6.0
5								
6								
7								
8								
9								
10	5.22	4	0.10	0.2	14.6	18.6	27.7	6.0
11								
12								
13								
14								
15								
16		7	0.10	0.8	6.0	14.0	17.9	6.0
17	2.72							
18								
19								
20								
21								
22		3	0.10	4.3	6.0	14.0	17.0	6.0
23								
24								
25	2.75							
26								
27								
28								
29								
30								
31	1.54							

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP2]
Stormwater Retention Basin Emergency Bypass
SWRB Bypass Effluent

DATE: MAY 1994

Day	Flow (MGD)
---	-----
1	1.487
2	0.862
3	0.000
4	0.000
5	0.000
6	0.000
7	0.806
8	0.934
9	0.904
10	0.061
11	0.000
12	0.005
13	0.000
14	0.000
15	0.000
16	0.000
17	0.000
18	0.000
19	0.000
20	0.000
21	0.000
22	0.000
23	0.000
24	0.000
25	0.000
26	0.000
27	0.000
28	0.000
29	0.000
30	0.000
31	0.007
Total	5.066

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: Valve House
South Groundwater Contamination Plume

DATE: MAY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)
1	2.092	0	0	12	0.10
2	2.203	0	0	11	0.09
3	2.271	0	0	18	0.16
4	2.153	0	0	14	0.12
5	2.124	0	0	13	0.10
6	2.183	0	0	17	0.14
7	2.211	0	0	12	0.10
8	1.912	0	0	16	0.12
9	1.798	0	0	17	0.11
10	1.589	0	0	12	0.07
11	2.335	0	0	14	0.12
12	2.572	0	0	12	0.12
13	2.097	0	0	12	0.09
14	2.237	0	0	12	0.10
15	2.114	0	0	13	0.10
16	2.331	0	0	12	0.10
17	2.025	0	0	13	0.10
18	2.180	0	0	14	0.12
19	2.322	0	0	12	0.10
20	1.989	0	0	14	0.11
21	2.195	0	0	12	0.10
22	2.184	0	0	13	0.11
23	1.772	0	0	12	0.08
24	2.174	0	0	13	0.11
25	2.212	0	0	14	0.12
26	2.253	0	0	13	0.11
27	2.045	0	0	14	0.11
28	2.145	0	0	14	0.12
29	2.155	0	0	14	0.12
30	2.298	0	0	14	0.12
31	2.182	0	0	14	0.12
Total	66.349				3.37

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**CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT**

Period Ending June 30, 1994

EFFLUENT RADIATION REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP3]
Valve House
South Plume/Stormwater Retention Basin *

DATE: MAY 1994

Day	Flow (MGD)	Total Alpha (pCi/l)	Total Beta (pCi/l)	Total U (ug/l)	Total U (kgs)	TSS (mg/l)	pH (Grab) (S.U.)
1	3.932	77	63	140	2.08		7.2
2	3.443	72	63	130	1.69		7.2
3	2.666	14	63	26	0.26		7.1
4	2.531	14	63	26	0.25		7.2
5	2.512	18	63	24	0.23	1.0	7.1
6	2.540	14	54	25	0.24		7.3
7	3.288	54	54	100	1.24		7.3
8	3.221	81	54	130	1.58		7.4
9	3.012	77	54	140	1.60		7.4
10	2.072	18	54	44	0.34		7.4
11	2.708	9	54	28	0.29		7.3
12	2.926	14	54	29	0.32	1.0	7.2
13	2.428	27	54	35	0.32		7.3
14	2.377	23	54	18	0.16		7.1
15	2.328	14	54	33	0.29		7
16	2.521	14	54	21	0.20		7
17	2.403	14	54	26	0.24		7.4
18	2.542	14	54	31	0.30		7.3
19	2.606	14	54	34	0.34	11.2	7.1
20	2.286	14	54	35	0.3027		7.3
21	2.396	32	54	35	0.3172		7
22	2.184	9	59	11	0.09		7.5
23	1.772	9	59	12	0.08		7.3
24	2.385	14	59	22	0.20		7.4
25	2.558	14	59	32	0.31		7.3
26	2.502	23	63	37	0.35	21.6	7.4
27	2.159	27	59	49	0.40		7
28	2.243	23	63	48	0.41		7.2
29	2.244	23	63	47	0.40		7.2
30	2.418	14	63	43	0.39		7.2
31	2.324	23	63	44	0.39		7.1
Total	79.527				15.61		

* Effective 3/11/94, the SWRB discharges were combined with the South Plume.

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CONSOLIDATED CONSENT AGREEMENT FACILITY
COMPLIANCE AGREEMENT/FEDERAL FACILITY AGREEMENT FOR
CONTROL AND ABATEMENT OF RADON-222 EMISSIONS
MONTHLY PROGRESS REPORT

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Period Ending June 30, 1994

EFFLUENT REPORT

FACILITY: Fernald Environmental Management Project
U.S. Department of Energy
7400 Willey Road, P.O.Box 398705
Cincinnati, Ohio 45239-8705
9002 M 9501 900212

LOCATION: [SP4]
Parshall Flume
Effluent Downstream of Manhole 176B

DATE: MAY 1994

Day	DO (mg/l)	IRON (mg/l)	MANGANESE (mg/l)
1			
2			
3			
4			
5	9.3	0.74	0.2
6			
7			
8			
9			
10			
11			
12	10.0	0.52	0.2
13			
14			
15			
16			
17			
18			
19	9.0	0.60	0.2
20			
21			
22			
23			
24			
25			
26	9.2	0.74	0.2
27			
28			
29			
30			
31			

000081